

SEQUENCE LISTING:

SEQ ID NO:1

Amino acid sequence of mGy12.

5 1 MSSKTASTNS IAQARRTVQQ LRLEASIERI KVSKASADLM SYCEEHARSD
51 PLLMGIPTSE NPFKDKKTCI IL*

SEQ ID NO:2

cDNA sequence of mGy12, variant 1

10

1 CTAGAATTCA GCGGCCGCTG AATTCTAGGC GACGACGGCG AAGAGTGAGT
51 GCCAAGGTTT ATATGGGAAG GACTTTGGGG TGAGCATCTT CTCTATTTCC
101 AGCTGGCTTT TCTGATTTTC AGAAAGAAGA CTCATCAAAG ATGTCCAGCA
151 AGACGGCAAG CACCAACAGC ATAGCCCAAG CCAGGAGAAC TGTGCAGCAG
15 201 CTGAGATTGG AAGCCTCCAT CGAAAGAATA AAGGTCTCAA AAGCATCAGC
251 AGACCTGATG TCATACTGTG AGGAGCATGC CCGGAGCGAC CCCCTGCTGA
301 TGGGCATACC GACCTCAGAA AACCCGTTCA AGGATAAGAA GACCTGCATC
351 ATCTTATAGT GGACCAGGAA GCGCCCTTGG CCTCTTAACG CAAACCACAG
401 CAGCAACCTG AAGGGATTCC TTCAGCTTAC CTGGTAACCA CAGCTAGTAA
451 CTAAACACC CTTCTCTCGG AATAATAGAC CCTGAAGTCT CTCTTTTTTCA
501 AGTTGTCCTT TCTTCACCCT TTAAGTATT AATACAGAAT AACAACTTA
551 TTTTCTATTT GATAACTATG GTATCATATT GGGTTACTGT ATAAGGAAAA
601 TGGCAGGGGA GTTGTGGGAA GCTTGTCTTT ACAAATATA ATTGATTAAG
651 ATATGTCAAG ACCTACATTG TCTAAGCACC GGCAAATTAA AATGTCGAGA
25 701 ATCACTTCAG TCAAAAACCT TTATATTCTG TTCTTAATAA TGTTTGTGCC
751 AACCTATATC CCATGTAAGG GATCTGGGGA GGAGGCATGT GTCTACAACC
801 ATACCTTTTT GCACATATGG CACTAACCAC CCTGAAACTT CCTGCGGTAG
851 CTCCCTCCCT TCAGAGTTAC ATCATTATCC TGAATCTGTG TAGGTAAATT
901 TCCGTGAAAT TTTTGTACAA AAAAAAGGTA ATGAAAGAAC GTTGCAAAGA
30 951 TCATCTGCAT TATAATGAGT TGATGCTGTT CTCCTCCTC TCTTGGAATT
1001 GTGCTGGCCC CTTAGTCTAC AATAAACTGT GCCAATTAAA AACCTAAGGC
1051 TAAAACTGAA AGCCCTTTGA TGGGGTCTTA ACTCATATCA GTCATTGGG
1101 CTTCTCTGAT CCTGAGGCTA AGAAAGGGGA AGAGACCTC AGGAGGCAGC
1151 TTCCACTCCA GGGCTCTTGA TCTCTGCTGG ATTGGGGCTG GCCACCTCAG

1201 AAACCTCCAC CCTCATGACT GGAATGGAAG AGGGGACCGA GAGCCTCACA
 1251 ATCTCGGAGA GGGAGGAGAA ATTCTTAAAA ACAGCTGCTC TCCTGCGCCC
 1301 AGCTTCACAG GCAGCCCTGC CCCTTTCTCC TCACCAGCAT GGTACCTGCC
 1351 CTTACTGCTA GAGCAGCTGC TTGTAGAGGG ACATTCCCTC CTCCCCAGTT
 5 1401 TTAACCTGGTG GACCACAGTG GGGGGAAAAA CATTCAAGCG ATATAAAGAC
 1451 ACTTGGGCTC TTTGCAGATG CCTATACTTC CAACACTACC ATGTCCACAA
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 10 1651 TTTGACTTTG TCACAGTGAC TATTTAAAAT AATCTATTCG AAGTCCAAAC
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 2301 GTATATCCTT TAGTACTTTA GCATATTTTT GTTAAAATAC TTTTAATGGT
 2351 AAGAAATGAA CTTGAGGTCC CAGGAGGTTT TGTGCTTTT TCATTGATTA
 25 2401 GAGACAATAA ATATCTTGTA ACTTCCTAAC CAGATCTGAG CTGTGCTCAC
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 30 2651 GATGTCATGA TGCACAGAAG TCCCATGTGG AGTGTTTTTC CCACACTGAC
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 2751 CGCGAGCACT ATACTCTTTA TACTCTGATC CCCCTAGTTC ATCTTAAATT
 2801 TGTCTGTGGC CCTGGCAAGA TAGCGTACAC AAGATTCCAT GACTCCAGAG
 2851 CATCTTGAAG AAACATACAT ATTTTGAAAG AGGGGAAATG TAGCAGATAG

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2901 TTCACAAGCT GCGGGTTGTA GCTAAATATT CCATTTCTTT GAAATCATGT
 2951 TTCTAAATTC TTTACCATCA GAAAGAAAAG GAGTGTCTATA CACTTTCAAG
 3001 GGAAGGCTTG GTCTGCGTTT TCTGTGTTTG GATTATTTTT ATACTTTGCT
 3051 GATCTTTAAG CTATCCATGG GGGAAATTTT ATACCAACGA GTTAATAATT
 5 3101 CTCATTCATC GTTTACACAA TGTAACATGT GTCATACTGG GGCCAGCGAG
 3151 ATGGCTCAGT AGGTAAAGGT GCTTGATGCT AAGCCCGGCA GCCTGTGTTT
 3201 CATCTACAGG ATGCACAACA TAAAGAAAAA GATCTGATTC CCACAGGTTC
 3251 TCTTCTGACC TACACACACA CACTACTAAA TAACATTTAA AAATATGTGC
 3301 CAAATTATAT TTGTTCGGGT GCCACCTTCC ACCAGCTTAC CACTACGGTA
 10 3351 GAACTGTCAA ATTCATCTCC CTGAATTTGT CTTAAAGGGG TGTCCATGCA
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 15 3601 CTTCCCTTGT TGTACAAAGG GAATAGAAGC AGAAGAAGCT GAGAGCCTCC
 3651 CTATTCCCAG ATGCCCTGGT GGAATGACCT GCCTCTCTGC CGTTTCTGCC
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 3801 AACTATTTCT GTGATGTTTC ATTTTtagcc ATGTAACTC CTAACACATA
 20 3851 TTCTCTTATG TCTCAGTAAA GTTTCATTTG ATAAGTTGTT GAGATTCTGT
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 3951 ACTGTGATTG TTATTTGCAA CTCTGTCTT TGGAAAGAAT AAAAGCATTT
 4001 TTTTTCACCT GCTAACATGC TCACAAATGT GAGAGAAGAG TCATTAAAAG
 4051 CTTTACTTAC TGGGTCAGTG CGTCATTGAC TCCTTTCTGT GTTTTGCCCA
 25 4101 ATAAATTAAT AAAAGACCAA AAAAAAAAAA AAAAAAAAAA AAAAAA

SEQ ID NO:3: cDNA sequence of mGy12, variant 2

30 1 GCAGCGGCGG CGGCGGCGAC GACGGCGAAG AGTTCATATG GGAAGGACTT
 51 TGGGGTGAGC ATCTTCTCTA TTTCCAGCTG GCTTTTCTGA TTCACCCAC
 101 CATTTAAAAC CTGGAGGCAC TGGGCCACAC AAAGCCTTGC TGATTTTCAG
 151 AAAGAAGACT CATCAAAGAT GTCCAGCAAG ACGGCAAGCA CCAACAGCAT
 201 AGCCCAAGCC AGGAGAACTG TGCAGCAGCT GAGATTGGAA GCCTCCATCG

251 AAAGAATAAA GGTCTCAAAA GCATCAGCAG ACCTGATGTC ATACTGTGAG
 301 GAGCATGCCC GGAGCGACCC CCTGCTGATG GGCATACCGA CCTCAGAAAA
 351 CCCGTTCAAG GATAAGAAGA CCTGCATCAT CTTATAGTGG ACCAGGAAGC
 401 GCCCCTTGCC TCTTAACGCA AACCACAGCA GCAACCTGAA GGGATTCTTT
 5 451 CAGCTTACCT GGTAACCACA GCTAGTAACT AAAACACCCT TCTCTCGGAA
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 551 ACTGATTTAA TACAGAATAA CAATCTTATT TTCTATTTGA TAACTATGGT
 601 ATCATATTGG GTTACTGTAT AAGGAAAATG GCAGGGGAGT TGTGGGAAGC
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 10 701 TAAGCACCGG CAAATTAAAA TGTCGAGAAT CACTTCAGTC AAAAACCTTT
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 15 951 AAAAGGTAAT GAAAGAACGT TGCAAAGATC ATCTGCATTA TAATGAGTTG
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 25 1451 GGGAAAAACA TTCAAGCGAT ATAAAGACAC TTGGGCTCTT TGCAGATGCC
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 1851 AGTGTGCACT AAAAGAAAAT GTATTTTAAT ATCTAATGCC TGGGCTCTGA
 1901 GCGTCATGCT TCTTGGTGGT AAACATGCAG TCCTGTTCTT AAGTGACTCA

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1951 GAGGCATCAG AATTTCTCCA CGTTACCCAT CTGCTTGGCA CTCGGAAGCTG
2001 AGCGTGTGAA ATCCATAGCG CTGCCCACAA CCTGTTCTCA CTGCTTAGCT
2051 CCCAGCTGGA TTAAAGACAC CTGCTCAGGC GGGAGAGAGA GAGAGAGAGC
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5 2151 AATTTTTTACA TTTAATGGAA CATTCTTTTT TTTTACAAGT ATATTTTTTCT
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2951 TAAATATTCC ATTTCTTTGA AATCATGTTT CTAAATTCTT TACCATCAGA
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25 3151 TAACATGTGT CATACTGGGG CCAGCGAGAT GGCTCAGTAG GTAAAGGTGC
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30 3401 GAATTTGTCT TAAAGGGGTG TCCATGCACA GGGCCAAGAG TCACCTCCAA
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3601 CCAGGCACGT CAGCTCTCTG AGCCTCCCCT TCCCTTCTTG TCACAAGGGA

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3651 ATAGAAGCAG AAGAAGCTGA GAGCCTCCCT ATTCCCAGAT GCCCTGGTGG
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 3751 CTTCAAATAC CAGTTTGTCT GTAGTGTGTA CTCACCTAAT CACTTGTTAT
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 10 4101 TCATTGACTC CTTTCTGTGT TTTGCCCAAT AAATTAATAA AAGACCAAAA
 4151 AAAAAAAAAA AAAAAAAAAA AAAAA

SEQ ID NO:4

amino acid sequence of human Gy12

1. MSSKTASTNN IAQARRTVQQ LRLEASIERI KVS KASADLM SYCEEHARSD
 51. PLLIGIPTSE NPFKDKKTCI II